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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/972,929	10/10/2001	Richard C. Rose	109039	4843

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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/972,929	ROSE ET AL.	
	Examiner	Art Unit	
	James S. Wozniak	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 April 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-8,13,14,16,21 and 24-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-8,13,14,16,21 and 24-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10/10/2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date ____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. In response to the office action from 3/23/2007, the applicant has submitted a request for continued examination, filed 4/11/2007, amending claims 1, 5, and 13-14, while arguing to traverse the art rejection based on the combination of the Cannelli et al reference *(U.S. Patent: 5,072,415)* with the teachings of the other prior art references and the amended claim limitations *(Amendment, Pages 8-10)*. The applicant's arguments have been fully considered but are moot with respect to the new grounds of rejection in view of Loghmani et al *(U.S. Patent: 6,377,927)* and because the limitations to which the Cannelli reference was applied have been canceled from the claims.

Specification

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the computer readable storage medium in lines 1-3 of the originally filed claim 13 (from 10/10/2001) is not recited in the specification and should be added. No new matter should be added.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the steps for translating a voice request into an HTTP protocol request and generating a response to the voice request must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. **Claims 5-8 and 24** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. More specifically claim 5 recites a "translator adapted to translate [a] voice request into an HTTP protocol request" and a "controller adapted to generate a response to the voice request." The specification does not disclose this "translator" or this "controller". In the specification it appears that the translation is performed at a speech recognition server, while the response is generated at a dialog server *(Page 5)*. Also, the "controller," as it is defined in the specification, seems only to perform model adaptation *(Page 9 and canceled subject matter from claim 5)* and not response generation. In order to overcome this rejection, claim 5 should be amended to correspond with the terms utilized in the specification. The dependent claims fail to overcome the 35 U.S.C. 112 first paragraph rejection of claim 5, and thus, are also rejected as failing to comply with the written description requirement.

6. **Claims 13 and 25-28** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which

was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. More specifically, claim 13 recites a "tangible computer readable storage medium," which is not disclosed in the specification. Although the specification discloses method implementation on a programmed computer (Page 13) and originally filed claim 13 (from 10/10/2001) recites a computer readable storage medium, the term "tangible" was not disclosed or defined in the specification or the original claims. Thus, claim 13 fails to comply with the written description requirement. The dependent claims fail to overcome the 35 U.S.C. 112 first paragraph rejection of claim 13, and thus, are also rejected as failing to comply with the written description requirement.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. **Claims 1, 3-4, 13-14, 16, 21, 25-28** are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: --recognizing the voice request using the adapted speech recognition model-- and --translating the recognized voice request...--. In other words, a voice request cannot be translated into an HTTP protocol request if it has not been recognized (see specification Page 5). Thus, claims 1 and 13 lack essential steps. The dependent claims fail to overcome the 35 U.S.C. 112, second paragraph rejection applied to claims 1 and 13, and thus, are also rejected as being incomplete for omitting essential steps.

9. **Claims 5-8 and 24** are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: --a speech recognizer for recognizing a voice request and translating the recognized voice request into an HTTP protocol request--. In other words, a voice request cannot be translated into an HTTP protocol request if it has not been recognized (see specification Page 5). Thus, claim 5 lacks essential elements. The dependent claims fail to overcome the 35 U.S.C. 112, second paragraph rejection applied to claim 5, and thus, are also rejected as being incomplete for omitting essential steps.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. **Claims 1, 3-8, 13-14, 16, and 25-27** are rejected under 35 U.S.C. 103(a) as being unpatentable over Loghmani et al *(U.S. Patent: 6,377,927)* in view of Gong *(U.S. Patent: 6,418,411)* and further in view of Sejnoha *(U.S. Patent: 5,008,941)*.

With respect to **Claims 1, 5, and 13**, Loghmani discloses:

Recognizing and translating a voice request into an HTTP protocol request *(recognizing a spoken user request and translating the request into an HTTP request, Col. 7, Line 44- Col. 8, Line 16)*; and

Generating a response to the voice request based on information from a database based on the HTTP protocol request *(generating replies to a HTTP protocol request based on information from a site database, Col. 7, Line 57- Col. 8, Line 16; and Col. 10, Lines 8-36).*

Although Loghmani discloses the use of a speech recognizer to recognize a spoken user request, Loghmani does not teach that the recognizer models are adapted to background noise and transducer conditions, however Gong recites:

Determining parameters of a background model at a periodic time during a received voice request *(on-line noise compensation, Fig. 1, Elements 19-20; determining background noise parameters, Col. 2, Lines 35-47)*;

Determining parameters of a transducer model *(one time adaptation, Fig. 1, Element 12; and calculating microphone (transducer) characteristics, Col. 1, Lines 59-62)*;

Determining an adapted speech recognition model for a speech recognition model based the background model and the transducer model *(producing an adapted model based on the inputs from the on-line noise estimation and the one-time adaptation (transducer adaptation), Fig. 1, Element 20 and Col. 2, Lines 44-50)*; and

Determining information in the voice request based on the adapted speech recognition model *(steps 4 and 5, Col. 2, Lines 58-61).*

Loghmani and Gong are analogous art because they are from a similar field of endeavor in speech recognition. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Loghmani with the model adaptation process taught by Gong in order to implement a speech recognizer that is robust against environmentally induced variations in a speech signal (Gong, Col. 1, Lines 24-26).

Loghmani in view of Gong does not specifically suggest that a transducer model is updated periodically, however Sejnoha teaches such a periodic transducer model update (Col. 3, Lines 5-67; Col. 6, Line 41- Col.7, Line 17).

Sejnoha further discloses method implementation using a computer processor, which would inherently require method storage in some type of computer readable medium for achieving method implementation *(Col. 5, Lines 24-48)*.

Loghmani, Gong, and Sejnoha are analogous art because they are from a similar field of endeavor in speech recognition. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Loghmani in view of Gong with the means for periodically updating a transducer model as taught by Sejnoha in order to implement more accurate speech recognition by tracking and compensating for time variant parameters that can degrade recognition performance *(Sejnoha, Col. 3, Lines 5-17)*.

With respect to **Claims 3, 7, and 25**, Gong additionally discloses:

The parameters of the background model are determined based on a first sample period *(sample period for background noise estimation, Fig. 2, Col. 5, Lines 29-32)*.

The parameters of the transducer model are determined based on a second sample period *(sample for a transducer model during a one time adaptation, which takes place before on-line adaptation and thus, inherently requires a second, distinct sampling period, Col. 5, Lines 23-28)*.

With respect to **Claims 4, 8, and 26**, Gong additionally discloses:

Saving at least one of the parameters of the background model and the parameters of the transducer model *(background noise is recorded and estimated, Col. 2, Lines 43-44)*.

Claim 6 contains subject matter similar to Claim 1, and thus, is rejected for the same reasons.

With respect to **Claim 14**, Loghmani discloses:

Recognizing and translating a voice request into an HTTP protocol request *(recognizing a spoken user request and translating the request into an HTTP request, Col. 7, Line 44- Col. 8, Line 16)*; and

Generating a response to the voice request based on information from a database based on the HTTP protocol request *(generating replies to a HTTP protocol request based on information from a site database, Col. 7, Line 57- Col. 8, Line 16; and Col. 10, Lines 8-36).*

Although Loghmani discloses the use of a speech recognizer to recognize a spoken user request, Loghmani does not teach that the recognizer models are adapted to background noise and transducer conditions, however Gong recites:

Determining user specific parameters of a background model for a received voice request *(on-line noise compensation, Fig. 1, Elements 19-20; determining background noise parameters, Col. 2, Lines 35-47; and speaker-adapted models, Fig. 1, Element 12)*;

Determining parameters of a transducer model *(one time adaptation, Fig. 1, Element 12; and calculating microphone (transducer) characteristics, Col. 1, Lines 59-62)*;

Determining an adapted speech recognition model for a speech recognition model based the background model and the transducer model *(producing an adapted model based on the inputs from the on-line noise estimation and the one-time adaptation (transducer adaptation), Fig. 1, Element 20 and Col. 2, Lines 44-50)*; and

Determining information in the voice request based on the adapted speech recognition model *(steps 4 and 5, Col. 2, Lines 58-61)*.

Loghmani and Gong are analogous art because they are from a similar field of endeavor in speech recognition. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Loghmani with the model adaptation process taught by Gong in order to implement a speech recognizer that is robust against environmentally induced variations in a speech signal (Gong, Col. 1, Lines 24-26).

Loghmani in view of Gong does not specifically suggest that a transducer model is updated periodically, however Sejnoha teaches such a periodic transducer model update (Col. 3, Lines 5-67; Col. 6, Line 41- Col.7, Line 17).

Sejnoha further discloses method implementation using a computer processor, which would inherently require method storage in some type of computer readable medium for achieving method implementation *(Col. 5, Lines 24-48)*.

Loghmani, Gong, and Sejnoha are analogous art because they are from a similar field of endeavor in speech recognition. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Loghmani in view of Gong with the means for periodically updating a transducer model as taught by Sejnoha in order to implement more accurate speech recognition by tracking and compensating for time variant parameters that can degrade recognition performance *(Sejnoha, Col. 3, Lines 5-17)*.

With respect to **Claims 16 and 27**, Gong recites;

Sampling periods of speech inactivity while receiving the voice request *(speech pauses, Col. 5, Lines 29-32)*.

12. **Claims 21, 24, and 28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Loghmani et al *(U.S. Patent: 6,377,927)* in view of Gong (U.S. Patent: 6,418,411) in view of Sejnoha *(U.S. Patent: 5,008,941)* and further in view of deVries et al *(U.S. Patent: 6,289,309)*.

With respect to **Claims 21, 24, and 28**, Loghmani in view of Gong and further in view of Sejnoha disclose the method/system/computer readable medium for recognizing speech using an adapted model and converting the recognized speech into an HTTP protocol request, as applied to Claims 1, 5, and 13. Loghmani in view of Gong and further in view of Sejnoha do not specifically suggest adjusting a periodic sampling time based on a frequency or magnitude of determined changes in successively sampled noise information, however deVries discloses:

Dynamically determining the periodic time based, at least in part, on a magnitude of determined changes in the sampled noise information *(changing a noise updating period based on successive changes in sampled noise data, Col. 2, Lines 30-33; and Col. 6, Lines 10-67)*.

Loghmani, Gong, Sejnoha, and deVries are analogous art because they are from a similar field of endeavor in speech recognition. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Loghmani in view of Gong in view of Sejnoha with the noise updating period altering means taught by deVries in order to provide a means for effectively tracking non-stationary noise *(deVries, Col. 2, Lines 26-29)*.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Mamdani et al *(U.S. Patent: 6,925,307)*- discloses speech services that translate spoken requests into formatted data for use by an HTTP server.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (571) 272-7632. The examiner can normally be reached on M-Th, 7:30-5:00, F, 7:30-4, Off Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached at (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James S. Wozniak
6/19/2007

PATRICK N. EDOUARD
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